

KUZMAK, Ye.M.; YEFREMOVA, K.P.; FIBKOVICH, T.V.

Heat-resistance of drill bit edges reinforced by a hard alloy.
Metalloved. i term. obr. mat. no.12:46-48 D'63. (MIRA 17:2)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti.

KUZMAK, Ye.M.; YEFREMOVA, K.P.; FIRKOVICH, T.V.; TURKIN, Yu.S.

Engineering fundamentals of the hard-alloy reinforcement of
rollers. Izv. vys. ucheb. zav.; nef't' i gaz 6 no.7:107-113
'63.
(MIRA 17:8)

1. Moskovskiy institut nef'tekhimicheskoy i gazovoy promysh-
lennosti imeni akademika I.M. Gubkina.

L 41072-65 EWC(j)/EWT(1)/EWT(m)/EWG(v)/FOG/EEC-4/EEC(t)/T/ENNA(n) Po-4/Pe-5/Pq-4/
 Pae-2/Peb/Pi-4 IJP(c) GW
 ACCESSION NR: AT5005430 P/2538/64/000/C17/0025/0033

AUTHOR: Firkowski, R. (Firkovski, R.)

TITLE: Effect of atmospheric pressure on the current density of penetrating
particles and on the ratio of this density to the total particle-current density
of extensive showers 19

SOURCE: Lodz. Uniwersytet. Zeszyty naukowe. Seria II. Nauki matematyczno-
 przyrodnicze, no. 17, 1964. Fizyka, 25-33

TOPIC TAGS: The effect of the Earth's atmosphere on the development of extensive
 cosmic-ray showers has been studied. The apparatus is an array of 72 M.G. counters
 and a penetrating particle set consisting of 56 detection elements making it pos-
 sible to obtain and record data on mu-mesons with a threshold energy of 0.5 Gev,
 particle density, atmospheric pressure, variation of pressure with variation in
 recording rate of cosmic-ray bursts and particle density of the penetrating and
 soft component, and variation in the ratio of penetrating particle density to the
 total particle density of a cosmic-ray burst. The experimental data collected
 from 1960 to 1962 are divided into 38 groups differing in pressure by 1 mm Hg, and
 after classifying the recording rates the barometric effects of the penetrating
 showers are calculated. The barometer coefficient for the ratio of penetrating

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ACCESSION NR: AT5005430

particle density to total particle density of a cosmic-ray burst has been determined as $\beta_R = (3.4 \pm 1.1)\%$ per cm Hg. There are no data on the barometric effect for the penetrating particle component except for the qualitative information given by T.E. Cranshaw et al. (Phil. Mag. 32, 811, 1958). The author thanks Docent Dr. Aleksander Zawadzki for the many discussions and valuable comments pertaining to this study, Dr. Tadeusz Musiatowicz and Jerzy Gwin for their discussion and interest in this work, and Czeslaw Lia and Engineer Wlodzimierz Stefan-

skt for their technical aid. Original has 14 formulas and 4 figures.

ASSOCIATION: Katedra Fizyki Doświadczalnej Uniwersytetu Łódzkiego (Department
of Experimental Physics, Łódź University)

SUBMITTED: 00

ENCL: 00

SUB CODE: AA, ES

NO REF SOV: 000

OTHER: 011

Card 2/2

FIRKOWICZ, S.

Production of electron tubes in Poland.

P. 100 (WIADOMOSCI ELEKTROTECHNICZNE) (Warsaw, Poland) Vol. 17, no.4, Apr. 1957

SO: Monthly Index of East European Accessions (EEAI) LC Vol. 7, No. 5. 1958.

FIRKOWICZ, S.

Remarks on the allowed load of the oxide cathode. Bul Ac
Pol Tech 8 no.11/12:655-660 '60.

1. Przemyslowy Instytut Elektroniki, Warszawa. Vorgelegt von
J.Groszkowski.

FIRKOWICZ, S.

A contribution to the analysis of the allowed load of oxide cathodes.
Bul Ac Pol Tech 8 no.11/12:661-665 '60.

1. Przemyslowy Instytut Elektroniki, Warszawa. Vorgelegt von J.
Groszkowski.

FIRKOWICZ, Szymon

Statistica quality control of electron valves. Przegl elektroniki
2 no.4:293-308 Ag '61

1. Przemyslowy Instytut Elektroniki

FIRKOWICZ, Szymon

Statistical control of the deficiencies of a party of electronic equipment, acceptance sampling by alternative method. Przegl elektroniki 2 no.7:456-472 '61.

1. Przemyslowy Instytut Elektroniki.

(Electronic apparatus and appliances)

9.3120

36713
S/194/52/000/002/034/096
D201/D301

AUTHOR: Firkowicz, S.

TITLE: The effect of choice of alkaline earth carbonates on the emissive properties of oxide-coated cathodes

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 2, 1962, abstract 2-3-5e (Bull. Acad. polon. sci., Ser. sci. techn., 1961, 9, no. 1, 39-43)

TEXT: Results are given of an experimental investigation into the effect of chemical composition and of the form of barium, strontium and calcium carbonate crystals on the emission current of oxide-coated cathodes. 4 types of coating, deposited according to the same process on the cathode of a standard cylindrical diode were investigated. 1) $(\text{Ba}, \text{Sr})\text{CO}_3$ 50:50% by weight, deposited from nitrate solutions by reaction with $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ (whisker crystals having average length 5.95 and 4.7 microns). 2) The carbonate de-

Card 1/5

The effect of choice ...

S/194/52/000/002/034/096
D201/D301

posited by reaction with NH_4HCO_3 (spherical crystals with the average grain diameter 3.0μ). 3) $(\text{Ba}, \text{Sr}, \text{Ca})\text{CO}_3$ with the weight ratio of components 47:43:10, deposited by reaction with NH_4HCO_3 (spherical crystals with average diameter 3.0μ). The number of samples tested in every series was 74, 64, 100 and 57 respectively. The emission current was measured at a fixed heating power of $\pm 0.5 \mu\text{W}$, corresponding to the temperature of 5230K. The diode anode voltage was 5 V (to avoid the effect of ion currents). The ambient temperature error correcting factor was calculated from

$$I_e = I_e(T_0) [1 + D(20 - T_0)]$$

where T_0 - the ambient temperature measured to $\pm 0.5^\circ\text{C}$; $I_e(T_0)$ - emission current at T_0 ; D - logarithmic derivative of emission

Card 2/ 5

The effect of choice ...

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D201/D301

current

$$D = \frac{1}{I_e} \frac{\Delta I_e}{\Delta T_o} = \left(\frac{5}{4} + \frac{1 \varphi_o}{K T_K} \right) \frac{1}{T_K}$$

in which $1/K = 11600$ degrees/volt; φ_o - the work function determined experimentally from measurement of emission current I_e' and I_e'' at two heating power levels ($P_H' = 200 \mu W$ and $P_H'' = 150 \mu W$). From

$$\varphi = \frac{K}{e} \frac{T_K' T_K''}{T_K' - T_K''} \left(\ln \frac{I_e'}{I_e''} - \frac{5}{4} \frac{T_K'}{T_K''} \right)$$

$T_K' = 523^\circ K$ and $T_K'' = 487^\circ K$ and hence

Card 3/5

The effect of choice ...

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D201/D301

$$\varphi_0 = 1,41 \left(\log \frac{I'_e}{I_e} - 0,039 \right)$$

The measurements have shown a normal statistical distribution of the logarithm of emission current in every series. Quantitative evaluation of differences in emission current of various series was carried out statistically by means of Student's t-criterion. For a 5% difference level ($t = 1.96$), the difference between separate series is appreciable, the emission current increasing with smaller carbonate crystals. Spheroidal crystals were deposited by ammonium carbonate, as compared with the whisker-type crystals deposited by sodium carbonate. The tricarbonate $(Ba, Sr, Ca)CO_3$ with the weight ratio 47:30:10 produces a considerably greater emission current than that obtained with the dicarbonate $(Ba, Sr)CO_3$ in the weight ratio 50:50. The spread in the value of emission current depends in each

Card 4/5

The effect of choice ...

S/194/62/000/002/034/096
D201/D301

series on the form of carbonates and is independent of both the dimensions and chemical composition. This spread decreases when the shape of crystals approaches that of a spheroid. The conclusions as to the uniformity of the emission current may be extended over to the electrical and thermal conductivity of oxide coatings. 3 references. [Abstracter's note: Complete translation.]

X

Card 5/5

9.2400
13,2170

S/194/62/000/005/096/157
D230/D308

AUTHOR: Firkowicz, S.

TITLE: Evaluation of the reliability of electron tubes based upon frequency of damage being equivalent to relative changes of characteristics

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 5, 1962, 11-12, 5zh78 (Bull. Acad. polon. sci. Ser. sci. techn., 1961, 9, no. 10, 571-575)

TEXT: A method of calculating the reliability of electronic valves is given; it is based on the observed parameter changes with respect to their initial value and, to the frequency of failures equivalent to these changes. The equivalent failure frequency of a single valve characteristic determining the lower limit of the region of changes observed in practice, is found from the condition of working stability of a random selection of valves. A graph of the failure frequency versus region of changes of the valve characteristic obtained in practice is given. General failure frequency is defined as the sum total of failure frequencies of all valve cha-
Card 1/2

✓c

Evaluation of the reliability ...

S/194/62/000/005/096/157
D230/D308

racteristics. Formulas for the reliability interval [Abstractor's
note: Meaning of "doveritel'nyy interval" not clear] are given in
which, for a given probability, the number of valve failures is
found. [Abstractor's note: Complete translation].

✓c

Card 2/2

FIRKOWICZ, Sz.

Sputtering of oxide-coated cathodes in vacuum tubes as result
of the current passing through the emitting layer. Archiw
elektrotech 10 no.2:505-533 '61.

30573

P/019/61/010/003/006/008
D265/1055

9.2400 (1331, 1001, 1161)

AUTHOR: Firkowicz, Sz.

TITLE: Contribution to the statistical analysis of the quality of electron tubes

PERIODICAL: Archiwum elektrotechniki, v. 10, no. 3, 1961, 783-787

TEXT: The author considers the quality of electron tubes as the product of the probability of the lack of damage R_a and the conditional probabilities of keeping the electrical parameters within the required tolerances $R_{x1}, R_{x2}, \dots, R_{xi}$. In order to establish the probability R , the distribution functions of the parameter X are taken as the anode current - I_a and the slope of its characteristics - R_a . A test is described for the quantity $n = 103$ of the electron tube EF80 working under normal conditions. During the time t_j the values of S_a and I_a were taken for each tube under test for constant grid polarization. As random variables for the statistical analysis the quantities of $S_a(t_j)$ and $\log I_a(t_j)$ were assumed and

Card 1/2

Contribution to the statistical ...

³⁰⁵⁷³
P/019/61/010/003/006/008
D265/D305

their normal distributions were checked by calculating the statistics χ^2 according to Pearson's relationship. The experimental and calculated results are tabulated and proved to show the logarithmic distribution for the anode current and normal distribution for the slope of the characteristics of the electron tube. To confirm these results another test was made for conditions more severe than the normal, i.e. for the anode voltage increased from 170 V to 250 V. In this case the normal distribution of $Sa(t_j)$ during time t_j was also observed. There are 3 tables and 3 Soviet-bloc references.

ASSOCIATION: Przemysłowy instytut elektroniki (The Industrial Institute of Electronics)

SUBMITTED: February 6, 1961

Card 2/2

16,6100

P/053/62/000/001/001/001
1004/1204

AUTHOR: Firkowicz, Szymon

TITLE: Experimental estimation of an unknown probability

PERIODICAL: Przegląd elektroniki, no. 1, 1962, 37-45

TEXT: Methods of estimation of an unknown probability of a random event in a population are discussed on the basis of the observed probability of such an event in n independent experiments, treated as a random sample of this population. General principles of estimation of unknown parameters in a population are stated, and it shown that the best estimate of a random event is its frequency, as observed experimentally. Methods of establishing confidence limits for an unknown probability are thoroughly discussed. Several examples are given based on the practice of electronic production.

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B

ASSOCIATION: Przemysłowy Instytut Elektroniki (Industrial Electronics Institute)

Card 1/1

S/275/63/000/002/002/032
D405/D301

AUTHOR: Firkowicz, S.

TITLE: Statistical estimate of lifetime of amplifier tubes

PERIODICAL: Referativnyy zhurnal, Elektronika i ee primeneniye, no. 2, 1963, 26, abstract 24136 (Prace Przemysl. inst. elektron., v. 3, no. 1, 1962, 49-68 (Pol.: summaries in Eng. and Rus.))

TEXT: The standard method of estimating the lifetime of tubes, adopted in the electron-tube industry of Poland, leads to disagreements between producers and consumers owing to the quality estimate. This method, which is based on the division of tubes into serviceable and defective, reduces to lifetime-testing of a lot of 10 tubes; after a given period of time the number of defective tubes should not exceed 2. An analysis of the method shows that a statistical method of estimating the guaranteed lifetime on the basis of the concept of tube failure would be more correct; the guaranteed lifetime is taken as the time of service under the given

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Statistical estimate ...

S/275/63/000/002/002/032
D405/D301

conditions, during which the failure does not exceed its permissible value with a given degree of probability. The theory of the method is set forth. 15 references. (Przemyslowy Inst. Elektroniki, Poland)
[Abstracter's note: Complete translation]

Card 2/2

FIRKOWICZ, Szymon

Reliability and quality evaluation of electronic devices. Przegl elektroniki
3 no.3:118-119 Mr '62

FIRKOWICZ, Szymon

The uniform quality evaluation of electronic elements. Przegl elektroniki
3 no.3:149-150 Mr '62

1. Przemyslowy Instytut Elektroniki, Warszawa.

FIRKOWICZ, Szymon

On the permissible current load of oxide cathodes. Przegl elektroniki
3 no. 5:277-279. My '62

1. Przemyslowy Instytut Elektroniki, Warszawa.

FIRKOWICZ, Szymon

Control testing of special quality tubes. Przegl elektroniki 3
no.9:535-539 S '62.

1. Przemyslowy Instytut Elektroniki, Warszawa.

FIRKOWICZ, Szymon

Principles of statistical evaluation of the reliability of
vacuum tubes. Przegl elektroniki 3 no.10:605-618 0 '62.

1. Przemyslowy Instytut Elektroniki, Warszawa.

FIRKOWICZ, Szymon

Contribution to a statistical evaluation of working stability of
electron tubes. Przegl elektroniki 3 no.12:716-721 D '62.

1. Przemyslowy Instytut Elektroniki, Warszawa.

FIRKOWICZ, S.; NIEZGODA, J.

Distribution of basic parameters in receiving tubes. Archiw
elektrotech 11 no.2:285-297 '62.

1. Przemyslowy Instytut Elektroniki, Warszawa.

P/019/62/011/004/003/010
D271/D308

AUTHOR: Firkowicz, Sz.

TITLE: Statistical evaluation of the quality of electron tubes

PERIODICAL: Archiwum Elektrotechniki, v. 11, no. 4, 1962, 741-756

TEXT: Practical methods are discussed for evaluating the quality of a batch on the basis of the percentage of sub-standard specimens. The measure of quality of a batch is the probability that at least one of the requirements will not be satisfied, called the factor of demerit. Statistical analysis of a random sample permits the evaluation of the demerit factor, i.e. to determine the confidence interval (w' , w'') which will contain the demerit factor with a confidence level β : the theory of estimation is applied in the analysis of sampling results. For alternative classification (each item is either good or bad) Hanamaker's table of w' , w'' values is reproduced for a lot (n) of 5 - 500; disqualified items number (z) 0 - 20 and the confidence level is one of 0.90. The top limit of

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Statistical evaluation of ...

P/019/62/011/004/003/010
D271/D308

the confidence interval (w'') is termed the guaranteed factor of demerit and β is the guarantee level. Nomographs of w'' as a function of n are given for various values of z . In handling some measurable parameters (parameters class II) the alternative classification is not sufficiently precise. The demerit factor is estimated on the assumption that permissible values of parameters are limited on one or both sides. In the case of upper value limitation the confidence interval for the unknown demerit factor is:

$$w'_g(X) = 0.5 - \theta(y''_g),$$

$$w''_g(X) = 0.5 - \theta(y'_g) \quad (12)$$

where y_g is the normalized variable and $\theta(y_g)$ is the value of the Laplace integral. Numerical examples are given. The combination of alternative classification and normal distribution of a class II parameter is considered, as well as the evaluation of the batch on

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Statistical evaluation of ...

P/019/62/011/004/003/010
D271/D308

the basis of several parameters. The average demerit factor of a production batch can be evaluated on the basis of m independent samples with n_1, n_2, \dots, n_m specimens each, by treating all these samples as one random sample of a lot equal to the sum of lots of individual samples; formulas are derived for the confidence interval in this case. Evaluations of the demerit factor on the basis of two samples of unequal lots and unequal numbers of rejects are compared and conditions are specified for when the two demerit factors can be regarded as identical. There are 1 figure and 1 table.

ASSOCIATION: Przemysłowy Instytut Elektroniki (Institute of Industrial Electronics)

SUBMITTED: March 21, 1962

Card 3/3

92120
Z/037/62/000/005-6/026/049
E140/E562

AUTHOR: Firkowicz, Sz.

TITLE: Maximum loading of oxide cathodes

PERIODICAL: Československý časopis pro fysiku, no. 5-6, 1962,
605-608

TEXT: In high-current, pulsed operation of an oxide cathode, Joule heating and the change in surface-layer donor concentration must be taken into account. Critical loading of the cathode may be taken as the maximum current at which it is still possible to neglect changes of the physical properties of the emission layer. A relation was found, which agrees well with the observed influence of the properties of an oxide cathode on its allowed loading. There are 2 figures. /c

ASSOCIATION: Průmyslový ústav elektroniky, Varšava
(Industrial Institute of Electronics, Warsaw)

Card 1/1

ACCESSION NR: AP4015986

P/0021/63/000/012/0460/0465

AUTHOR: Firkwicz, Szymon (Doctor, Engineer)

TITLE: On application of the F distribution of Snedecor to reliability problems

SOURCE: Przegląd elektrotechniczny, no. 12, 1963, 460-465

TOPIC TAGS: Snedecor F-distribution, reliability, statistics, production production homogeneity, dispersion analysis, probability, standard deviation, statistical production analysis

ABSTRACT: In this article the author show the usefulness of the F-distribution of Snedecor in solving problems of dispersion analysis, production homogeneity control, determination of the confidence interval for reliability and comparison of hazards. Verification is given for the hypothesis that incidence of hazards is independent of time. The mathematical definitions of reliability and intensity of failures are given. Orig. art. has: 3 figures and 66 equations.

Card 1/2

ACCESSION NR: AP4015986

ASSOCIATION: Przemyslowy Instytut Elektroniki (Industrial Electronics Institute)

SUBMITTED: 00

DATE ACQ: 03Feb64

ENCL: 00

SUB CODE: MM, IE

NO REF SOV: 001

OTHER: 006

Card 2/2

GRZESIAK, Kazimierz, dr inz.; FIRKOWICZ, Szymon, dr inz.

Reliability evaluation by using time space transformation.
Przegl elektroniki 4 no. 10/11:563 O-N '63.

Statistical methods for testing the homogeneity and
repetitiveness in mass production. Ibid.:569-586.

1. Ośrodek Badawczy Sprzętu Łączności, Warszawa
(for Grzesiak).
2. Przemysłowy Instytut Elektroniki, Warszawa (for
Firkowicz).

FIRKOWICZ, Szymon, dr inż.

Snedecor's F distribution as used in reliability investigations. Przegl elektroniki 4 no. 10/11:568 Q-N '63.

1. Przemyslowy Instytut Elektroniki, Warszawa.

FIRKOWICZ, Szymon, dr inż.; KOSMOWSKA, Alina

Distribution of certain measurable attributes of low-power electron tubes. Przegl elektroniki 4 no. 10/11: 635-638 O-N '63.

1. Przemyslowy Instytut Elektroniki, Warszawa.

ACCESSION NR: AP4009261

P/0019/63/012/004/0703/0724

AUTHOR: Grzesiak, K.; Firkowicz, S.

TITLE: Reliability evaluation based on time space transformation

SOURCE: Archiwum elektrotechniki, v. 12, no. 4, 1963, 703-724

TOPIC TAGS: system reliability evaluation, time space, time space transformation, distribution function, longevity distribution function, Rayleigh distribution, Weibull distribution

ABSTRACT: Reliability evaluation is usually based on information concerning the longevity distribution of the elements constituting the device under consideration, i.e. the form of the distribution function and its parameters. This creates the necessity of devising a method which would permit a relatively simple and fast preliminary verification of the hypothesis used for the form of the distribution function of element longevity, as well as for a preliminary rough estimate of the parameters of this function, based on experimental findings. Authors attempted to solve this problem by means of a unique representation of an actual

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ACCESSION NR: APL009261

longevity distribution by an exponential distribution in an imaginary time space $T = y(t)$, which permits a representation of the given distribution function $F(t; \theta_1, \dots, \theta_N)$ and the random variable T (object's life) in another form of distribution function $G(\tau; \theta_x)$ with random variable τ , the requisite condition of this type of distribution function being

$$F(t; \theta_1, \dots, \theta_N) - G(\tau; \theta_x) = 0, \quad 1$$

$$0 < \tau < \infty.$$

This method was applied to an examination of the Gamma, Weibull and Rayleigh distributions, with the Weibull distribution examined as a special case. Solutions are derived in a form suitable for programming on an electronic digital computer. Examples illustrating the practical advantages of this method are also given. Orig. art. has: 50 equations and 6 tables.

ASSOCIATION: Ośrodek badawczy sprzętu łączności, Przemysłowy instytut elektroniki (Communications Equipment Testing Center, Industrial Electronics Institute)

Card 2/22

FIRKOWICZ, Szymon

Statistical deduction on the stat - the measurable
characteristics of electron tub Praegl elektroniki 5
no. 6:297-303 Je '64.

1. Industrial Institute of Electronics, Warsaw.

P/0019/64/013/001/0159/0170

ACCESSION NR: AP4039454

AUTHOR: Firkowicz, Sz.

TITLE: . Some problems of statistical estimates of reliability

SOURCE: Archiwum elektrotechniki, v. 13, no. 1, 1964, 159-170

TOPIC TAGS: reliability estimate, reliability theory, statistical reliability theory, statistical reliability estimate, component reliability, parametric reliability estimate, nonparametric reliability estimate, statistics, mathematical statistics

ABSTRACT: The requirements of practice and the creative teamwork of engineers, mathematicians and physicists led to the origination of a new field of science called reliability theory which is primarily intended for contemporary technology. One of the basic problems in the theory of reliability is the numerical evaluation of the reliability of engineering objects (devices or their components). The present article is devoted to this problem. Only the reliability estimation problems which are most important from a practical point of view are discussed. The basic concepts are defined and principles at parametric and nonparametric re-

1/2

Card

ACCESSION NR: AP4039454

liability estimates are given. The parametric method, based on the exponential law of reliability, was examined in detail. Formulas for estimating the intensity of rejects λ and the reliability function $R(t)$ are given. Formulas for checking the uniformity of the reject intensity in a given time interval are also given. In addition, two nonparametric methods for estimating reliability are given. One of these is based on the Clopper-Carwood identity. The other is based on a generalized form of the exponential law of reliability. A comparison of the effectiveness of these methods was carried out. Original article has: 4 figures and 38 equations.

ASSOCIATION: Przemyslowy Instytut Elektroniki (Industrial Electronics Institute)

SUBMITTED: 02Dec 63

DATE ACQ: 18Jun64

ENCL: 00

SUB CODE: IE, MA

NO REF SOV: 000

OTHER: 007

Card 2/2

FIRKOWICZ, S.

Nonparametric methods of reliability evaluation. Przem inst elektron
prace 5 no.2:125-141 '64.

1. Department of Radio Engineering of the Industrial Institute of
Electronics, Warsaw. Submitted April 15, 1964.

FIRKOWICZ, Szymon

Nonparametric methods of reliability evaluation. Przegl elektroniki
5 no.7:346-358 J1 '64.

1. Industrial Institute of Electronics, Warsaw.

FIRKOWICZ, S.; KOSMOWSKA, A.

Statistical determination of the tolerance of measurable characteristics. Przem inst elektron prace 5 no.1:53-70 '64.

1. Department of Radio Engineering of the Industrial Institute of Electronics, Warsaw. Submitted January 13, 1964.

ACCESSION NR: AP4043029

P/0053/64/000/006/0297/0303

AUTHOR: Firsirotu, S.

TITLE: Statistical deductions concerning the stability of vacuum tube parameters

SOURCE: Przegląd elektroniki, no. 6, 1964, 297-303

TOPIC TAGS: vacuum tube stability, equivalent failure frequency, resistor stability, capacitor stability, transistor stability

ABSTRACT: The paper discusses a method for deducing the stability of vacuum tube parameters which is based on the principle of ascribing an equivalent frequency to the observed relative variations of the parameters. This is a continuation of previous work on this subject carried out by the author (Bull. Acad. Polon. Sci., Ser. sci. tech., vol. 9, No. 10, 1961; Arch. Elektr. vol. 8, No. 2, 1964). In this method described, the variation of a measurable tube parameter X during operation is represented by the relation

$$\varphi_X(t) = \frac{x_1(0) - x_1(t)}{x_1(0)} = 1 - \frac{x_1(t)}{x_1(0)}$$

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ACCESSION NR: AP4043029

where $x_i(t)$ and $x_i(0)$ denote the values of the parameter x for the i -th tube after an operation of duration t and at $t=0$, respectively. The determination of the equivalent failure frequency is discussed and suitable formulas are derived. Statistical control of parameter stability and the comparison of parameter stabilities are analytically examined. A criterion for sufficient stability is established which, in practice, can be used for preliminary deductions as to the stability of measured parameters. The practical usefulness of the method is demonstrated by three experiments involving low-power vacuum tubes. Although the title of this paper and the experiments refer to vacuum tubes, the method described can be used equally well for other components such as resistors, capacitors, transistors, etc. Orig. art. has: 5 figures and 23 formulas.

ASSOCIATION: Przemyslowy Instytut Elektroniki (Industrial Electronics Institute)

SUBMITTED: 14Feb64

ENCL: 00

SUB CODE: EC

NO REF SOV: 001

OTHER: 003

Card 2/2

FIRKOWICZ, Szymon; KOSMOWSKA, Alina

Effect of underheating tubes on their parameters. Przegl
elektroniki 5 no.10:497-503 0 '64.

1. Industrial Institute of Electronics, Warsaw.

FIRKOWICZ, Szymon

Some stochastic dependences for basic characteristics of electron tubes. Przegl elektroniki 6 no.2:90-97 '65.

1. Industrial Institute of Electronics, Warsaw. Submitted June 27, 1964.

FIRKOWICZ, Szymon

Stability evaluation of measurable properties of electron tubes by using the method of equivalent failure rate. Archiw elektrotech 13 no.2:411-427 '64.

1. Industrial Institute of Electronics, Warsaw. Submitted January 20, 1964.

POLAND

FIRKOWICZ, Szymon

Industrial Institute of Electronics (Przemyslowy
Instytut Elektroniki)

Warsaw, Przegląd elektroniki, No 5, May 1966,
pages 246-55

"Numerical estimation of the prototype series
of valves intended for mass production."

POLAND

WIEKOWICZ, Szymon

Industrial Institute of Electronics (Przemyslowy Instytut Elektroniki)

Warsaw, Przegląd elektroniki, No 11, Nov 1966, pp 557-68

"Numerical evaluation of information obtained from research on a
prototype series of valves."

FIRKOWSKI, Ryszard; GAWIN, Jerzy; JABLONSKI, Zdzislaw; JATCZAK, Jerzy;
KARAKULA, Szczepan; ZAWADZKI, Aleksander

Distance measurements of the cores of extensive air showers
from the center of detector systems by using the density
gradient method. Nauki matematyczne przyrod Lodz no. 15: 113-125
'63.

1. Katedra Fizyki Doswiadczalnej, Uniwersytet, Lodz.

FIRKOWSKI, Ryszard

Influence of atmospheric pressure on the density of the stream of penetrating particles and on the relation of this density to the total density of the stream of large showers of cosmic radiation. Nauki matematyczne Lodz no.17:25-33 '64.

1. Department of Experimental Physics, University, Lodz.

BONCZAK, Bazyli; FIRKOWSKI, Ryszard; JATCZAK, Jerzy

Efficiency measurement of the neon telescope. Nauki matematycznej przyrod Lodz no.17:41-45 '64.

1. Department of Experimental Physics, University, Lodz.

HIBNER, J.; FIRKOWSKI, R.; GAWIN, J.; ZAWADZKI, A.

Correlated counts of muon and nucleon components, detectors
in extensive air showers under a thick absorber. Acta physica
Pol 25 no.1:101-116 Ja '64

1. Institute for Nuclear Research, High Energy Physics Department,
Lodz.

SMOLARZ, Wojciech; FIRLEJ, Eugeniusz

Prognostic role of an elevated ST wave in myocardial infarction. Pol. arch. med. wewnet. 34 no.2:201-204 '64.

1. Z Kliniki Chorob Wewnętrznych i Zawodowych Śl. AM w Zabrze;
kierownik: prof.dr.med. W.Zahorski.

*

FIRLEJ, J.

FIRLEJ, J. The method of continuous fermentation of sulphite waste liquor
in vats with a floating "mount." p. 299.

Vol. 12, no. 10, Oct. 1956

PRZEGLAD PAPIERNICZY

PHILOSOPHY & RELIGION

Warszawa, Poland

SO: East European Accession, Vol. 6, No. 3, March 1957

FIRLEJ, J.

FIRLEJ, J. A method of continuous growth of a pure culture of yeasts used for initial inoculation. p. 302.

Vol. 12, no. 10, Oct. 1956

PRZEGLAD PAPIERNICZY

PHILOSOPHY & RELIGION

Warszawa, Poland

SO: East European Accession, Vol. 6, No. 3, March 1957

AUGUSTYN, Wladyslaw; FIRLUS, Leonard; FRACKOWIAK, Kazimierz

Studies on the reaction of alumina with ammonium hydrofluoride.
Przem chem 39 no.5:255-260 My '60.

1. Instytut Chemii Nieorganicznej, Politechnika Slaska, Gliwice

FIRMAN, M.; BRUNA, V.

Checking and measuring methods in surface finishing. p.3.

CHECHOSLOVAK HEAVY INDUSTRY. (Ceskoslovenska obchodni komora) Praha,
Czechoslovakia. No.7, 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no.1, Jan.1960.

Uncl.

H-5

COUNTRY: : Czechoslovakia

CATEGORY : 18163

ABS. JOUR. : RZKhim., No. 5 1960, No.

AUTHOR : Bruna, V. and Firman, M.

INST. : Not given

TITLE : Methods for the Control and Measurement of Treated Surfaces

ORIG. PUB. : Chekhoslov Tyazh Promishlenost, No 7, 43-47 (1959)

ABSTRACT : The construction, principle of operation, and technical characteristics of a number of devices designed for the nondestructive measurement of the thickness of coatings used in the protection of surfaces are described. Three groups of instruments are discussed: magnetic, inductive, and radiometric; calibration instruments are also described. The instruments discussed can be used both for random (selective) control (e.g., magnetic instruments) and in mass or continuous pro-

CARD: 1/2

COUNTRY : Czechoslovakia
CATEGORY :

H-3

ABST. JOUR. : RZKhim., No. 5 1960, No.

18163

AUTHOR :
INSTR. :
TITLE :

ORIG. PUB. :

ABSTRACT : duction, e.g., radiometric instruments, the signals from which may be used after appropriate amplification and conversion in the automatic regulation of the process. The instruments discussed have been developed in Czechoslovakia and are either in production or about to be placed on the market in the near future.

N. Lyudmirskiy

CARD: 2/2

205

GEL'MAN, A.S.; GRINEVICH, G.P., prof.; GRINEVICH, G.G.; ZOTOV, V.P.;
KOMAROV, G.V.; PAVLOV, S.M.; FIRMON, A.V.; TRUBIN, V.A., glav.
red.; SOSHIN, A.V., zam. glav. red.; YEPIFANOV, S.P., red.;
ORUPRIYEV, I.A., red.; KHOKHLOV, B.A., red.; ZIMIN, P.A., red.;
KROMOSHCH, I.L., inzh., red.; NAUMOVA, G.D., tekhn. red.

[Handbook on loading, unloading, and conveying operations in
construction] Sptavochnik po pogruzochno-razgruzochnym i trans-
portnym rabotam na stroitel'stve. Pod red. G.P.Grinevicha.
Moskva, Gosstroifdat, 1962. 376 p. (MIRA 15:9)
(Material handling) (Building materials)

RUMANIA / Chemical Technology. Chemical Products and H
Their Application. Electrochemical Industries.
Electroplating. Galvanic Cells.

Abs Jour: Ref Zhur-Khimiya, No 12, 1959, 43011.

Author : ~~Firoiu C.~~

Inst : Not given.

Title : Electrolyte for the Chrome Plating, Based on
Chromium Sulfate.

Orig Pub: Metalurgia si constr. mas., 1958, 10, No 9, 751-758.

Abstract: Two electrolytes investigated in the laboratory for
chrome plating are recommended. Composition of I
(in gr/l): $\text{Cr}_2(\text{SO}_4)_3$ - 196, $(\text{NH}_4)_2\text{SO}_4$ - 432, $(\text{NH}_4)_2$
CO - 240, H_3BO_3 - 31, CrO_3 - 1, pH = 2.5, tempera-
ture - 35-45°, $D_k = 10-25 \text{ a}/\partial \text{ m}^2$, $\text{BT}_k = 5.5-6.3\%$,
bath voltage - 4.3 v. Composition of II (in gr/l):

Card 1/2

H-19

RUMANIA / Chemical Technology. Chemical Products and H
Their Application. Electrochemical Industries.
Electroplating. Galvanic Cells.

Abs Jour: Ref Zhur-Khimiya, No 12, 1959, 43011.

Abstract: $\text{Cr}_2(\text{SO}_4)_3$ - 196, $(\text{NH}_4)_2\text{SO}_4$ - 432, H_3BO_3 - 31, CQSO_4
- 1, pH = 2.5, temperature = 35-40°, $D_k = 10-20$
 $\text{a}/\partial \text{m}^2$, $\text{BT}_k = 6.5-11\%$, bath voltage = 3.65 v. It
is established that changes in D_k and BT_k go through
maxima. The higher these maxima the higher is the
solution temperature. The above is accompanied with
the brightest deposit that has good adhearance char-
acteristics. A Cr deposit of 10μ thickness may be
obtained from I and up to 2μ from II which is ade-
quate for the decorative plating. It is pointed
out that II electrolyte is simpler and cheaper than
I.

Card 2/2

FIROIU, C. ; SLADU, Z.

A contribution to the study of cadmium galvanic deposit. p. 281

METALURGIA SI CONSTRUCTIA DE MASINI. (Ministerul Industrial Metalurgice
si Constructiilor de Masini se Asociatia Stiintifica a Inginerilor si
Technicienilor di Romina.) Bucuresti, Rumania; Vol. 11, no. 4, Apr. 1959

Monthly List of East European Accessions (EEAI) LC Vol. 8, no. 9, ^{Sept.} 1959

Uncl.

HAGYMAS, Gh.; FIROIU, C.; RADUCANU, I.

Cathodic polarization and conditions for the formation of cobalt electrolytic powder. Studii cerc chimie 10 no.2:251-265 '62.

1. Institutul politehnic, Catedra de electrochimie si chimie fizica, Bucuresti.

RUM/2-11-6-26/46

5(4)

AUTHOR: Firoiu, Constantin, Engineer, Candidate in Technical Sciences

TITLE: Electrochemical Polishing

PERIODICAL: Știință și Tehnică, 1959, Vol 11, Seria a II-a, Nr 6, pp 28-29, (RUM)

ABSTRACT: The author describes the method of electrochemical polishing and mentions its advantages over mechanical polishing. Large-scale use of electrochemical polishing has not yet been introduced because of the lack of a universal electrolyte. The author recommends such an electrolyte with the following composition: chromic acid: 372 g/lit; phosphoric acid: 328 g/lit; hydrofluoric acid: 33 g/lit; sulphuric acid: 25 g/lit; boric acid: 8.3 g/lit and phthalic anhydride: 4.3 g/lit. This solution can be used for polishing almost all metals and alloys. There are 2 schematic diagrams and 1 table.

Card 1/1

FIROIU, C.; RADUCANU, I.; HAGYMAS, Gh.

Electrolytic obtention of elementary fluorine. Rev chimie Min
petr 13 no.7:395-400 Jl '62.

HAGYMAS, Gh.; FIROIU, C.; RADUCANU, I.

Obtention of cobalt trifluoride by direct synthesis. Rev chimie
Min petr 13 no.12:760 D '62.

1. Laboratorul de electrochimie Institutul Politehnic, Bucuresti.

ACC NR: AP7004499

SOURCE CODE: RU/0017/66/000/009/0508/0510

AUTHOR: Firoiu, C. (Doctor of engineering); Neata-Balescu, M. (Engineer)

ORG: Gheorghe Gheorghiu-Dej Polytechnic Institute, Bucharest (Institutul politehnic)

TITLE: Method of obtaining a hard gold-nickel alloy electrolytically.

SOURCE: Metalurgia, no. 9, 1966, 508-510

TOPIC TAGS: electrolysis, electroplating, electrolyte, alloy, gold base alloy, microhardness, gold nickel alloy, aurocyanite, nickel sulfate

ABSTRACT: Preliminary experimentation to obtain a hard gold-nickel alloy followed procedures described in 9 foreign patents. The purpose of the experiments was to study gloss, hardness, deposit adhesion properties, and electric current yield. After a number of tests, a new electrolyte of good quality was developed with the following composition and operational characteristics: gold in the form of $K[Au(CN)_2]$ -aurocyanide, 4 g/l; nickel, as nickel sulfate ($NiSO_4$), 3 g/l; disodium phosphate, 40 g/l; sodium (potassium) citrate,

Cord 1/2

UDC: 669.215'24:621357.9

ACC NR: AP7004499

40 g/l; citric acid, 20 g/l; pH, 4—5.5; cathode current density 1—1.5 ampere/dm; and working temperature 18—24 C. Electrolysis takes place at 40—50 C, with an anode current density of 1—1.65 ampere/dm². The gold-nickel deposit with a 2—2.5 percent nickel content has a high gloss, obtained after one hour of electrolysis, good adhesion, and a higher hardness than that in similar alloys. Microhardness amounts to 160—180 kgf/mm², as compared with the 90—100 kgf/mm² in pure gold achieved electrochemically. Advantages of the new method, which is already being used in an electroplating shop at the "Electromagnetica" Plant in Bucharest, are operation at room temperature; relatively high current densities; high gloss of deposits even after prolonged electroplating; little change in deposit composition and quality due to electrolyte variation; and use of inexpensive and easily available nickel sulfate. Orig. art. has: 1 figure. [DR]

SUB CODE: 11, 13/SUBM DATE: none/

Card 2/2

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APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413220012-6"

FIRON, Andras

Letter about small business. Hungarian TU no.9:16-17 S '61.

FIRON, Andras

"The soil - our eternal love". Hungarian TU no.7:14-16 JI '61.

FIRONOV, P.

PA 38/49T67

USSR/Engineering

Jan/Mar 49

Paints - Application

Paints, Mold Resistant

"The Use of Nonmildewing (Antimycotic) Whitewash,"
P. Fironov, Engr-Tech, Bakinskiy Refrigeration Plant,
1 p.

"Kholodil Tekh" No 1

Found that in whitewashing surfaces, previously
whitened by lime, positive results were obtained only
when surface was treated two times with 2% solution
of sodium fluoride or ferric fluoride or with 3%
solution of ammonium fluoride.

38/49T67

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413220012-6

Throne's P.

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413220012-6"

PIRONOV, P.

Tests for established norms for natural losses in freezing
sturgeon. Khol.tekh. 30 no.4:63-64 O-D '53. (MLRA 7:3)

1. Inzhener-tekhnolog Bakinskogo kholodil'nika.
(Fish, Frozen) (Sturgeon)

FIRONOV, P.V.

86-1-4/30

AUTHOR: Fironov, P.V., Col

TITLE: The Avantguard Role of Communists in Combat and Political Training (Avangardnaya rol' kommunistov v boyevoy i politicheskoy podgotovke)

PERIODICAL: Vestnik Vozdushnogo Flota, 1958, ⁴⁰Nr 1, pp. 9-14 (USSR)

ABSTRACT: The author in this article draws attention to some shortcomings in the work of party organizations concerning the development of a sense of high responsibility in party members and candidates toward their everyday life and the activities of their subunits. The importance of exemplary conduct by communists in combat and educational training as well as in the maintenance of strictest discipline is stressed and explained by the author.

AVAILABLE: Library of Congress
Card 1/1

SPIZHARNYY, Nikolay Nikolayevich; KAMYSHEV, Vasilii Grigor'yevich;
FIROV, Ivan Anan'yevich; LIKHOVIDOV, N.K., red.; POLUNICHEV,
I.A., red.izd-va; PROKOP'YEVA, L.N., tekhn.red.

[Questions and answers on problems of the application in
lumbering industry of the principal regulations of labor
legislation] Konsul'tatsii po voprosam primeneniia v leanoi
promyshlennosti osnovnykh polozhenii trudovogo zakonodatel'-
stva. Moskva, Goslesbunizdat, 1959. 133 p. (MIRA 12:11)
(Lumbering) (Labor laws and legislation)

KRISHTAL, M.A.; FIRSANOV, I.A.; VAYNER, Yu.I.; GOLOVIN, S.A.;
MAKSIMOV, S.K.

Mechanical properties of statically and dynamically deformed
alloys. Fiz. met. i metalloved. 15 No.2:305-309 F '63.
(MIRA 16:4)

1. Tul'skiy mekhanicheskiy institut.
(Alloys--Testing)

FIRSANOV, Nikolay Nikolayevich; SIGAYEV, A.F.; GONCHUKOV, V.S.;
CHESNOKOVA, N.G., inzh., retsenzent; ZUBCHENKO, V.V., inzh.,
red.; USENKO, L.A., tekhn. red.

[Lighting of railroad stations] Osveshchenie zheleznodorozh-
nykh stantsii. Moskva, Transzheldorizdat, 1963. 185 p.

(MIRA 16:5)

(Railroads--Stations) (Railroads--Electric equipment)

FIRSANOV, N.N., inzh.

Combined designs of a contact network and outdoor illumination
of stations. Transp.stroi. 12 no.7:41-44 J1 '62.

(MIRA 16:2)

(Railroads--Electrification)

(Lighting)

FIRSAKOVA, O. S.: Master Phys-Math Sci (diss) -- "Some problems of interpolation using integral functions". Khar'kov, 1958. 9 pp (Min Higher Educ Ukr SSR, Khar'kov Order of Labor Red Banner State U im A. M. Gor'kly) 150 copies (KL, No 5, 1959, 143)

AUTHOR: Firsakova, O.S.

SOV/20-120-3-10/67

TITLE: ~~Some questions of the Interpolation With the Aid of Entire Functions~~ (Nekotoryye voprosy interpolirovaniya s pomoshch'yu tselykh funktsiy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 120, Nr 3, pp 477-480 (USSR)

ABSTRACT: The author considers three problems of interpolation:
 1. Which conditions have to be satisfied by the interpolation knots λ_n in order that there exists at least one function $f(z)$ of a certain class so that $f(\lambda_n) = a_n$, where the sequence $\{a_n\}$ satisfies the condition $\lim_{n \rightarrow \infty} \frac{\ln |a_n|}{|\lambda_n| \varphi(|\lambda_n|)} \leq \varrho$
 ($\varrho = \lim_{r \rightarrow \infty} \varphi(r)$, $\varphi(r)$ order of increase of $f(z)$) ?

2. When/exists for given $\{\lambda_n\}$ and $\{a_n\}$ at least one $f(z)$, the indicator of which is not greater than a given function, with the property : $f(\lambda_n) = a_n$?

3. Like 2., but the λ_n lie within an angle.

Card 1/2

Some Questions of the Interpolation With the Aid of SOV/20-120-3-10/67
Entire Functions

In 5 theorems some special cases of these problems are solved.

There are 2 Soviet references.

PRESENTED: January 24, 1958, by M.V. Keldysh, Academician

SUBMITTED: March 30, 1957

1. Mathematics--Theory
2. Functions--Applications

Card 2/2

FIRSANOV, B.

Cold Storage

Improving quality in storing food products. Khol. tekhn. 30, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

FIRSANOV, N.N., inzh.

Concerning the exclusion of par. 9 ch. II-V.6 of "Construction specifications and regulations" (1959) from the proposed new edition of "Norms on electric lightning." Svetotekhnika 7 no.11:20-21 N '61.
(MIRA 14:11)

1. Moskovskiy gosudarstvennyy proyektno-izyskatel'skiy i nauchno-issledovatel'skiy institut transporta Ministerstva transportnogo stroitel'stva SSSR.
(Electric lightning)

FIRSAKOVA, A. N.		PROCESSES AND PROPERTIES INDEX
Ca	<p>Variability of <i>Saccharomyces cerevisiae</i> caused by mineral and organic acids. A. N. Firsova. <i>Microbiology</i> (U. S. S. R.) 9, 654-660 (in English, 661) (1970). -- Prolonged keeping of yeast in 0.1 N HCl, H₂SO₄, HNO₃ or Na benzoate and salicylate solns. causes the formation of stable strains of the R type. The different agents are non-specific and induce the same mutants. Inorg. acids have a greater bactericidal effect than the same concns. of org. acids. The mutants contain less water and protein and differ in their ash content from the initial culture. Several strains have a higher biochem. activity than the original strain. T. Laanes</p>	
<p>Dept. Microbiol., Leningrad Pharmaceut. Inst. Dept. Biochem., Omsk. Med. Inst.</p>		
<p>ASB-51A METALLURGICAL LITERATURE CLASSIFICATION</p>		
<p>FROM SOURCE</p>		
<p>TO SOURCE</p>		

FIRSANOVA, A. N.
30988. FIRSANOVA, A. N. AND KASHKINA, YE. G.

Vliyanie antibiotikov na dpo zhzh epodo bnye mikroorganizmy. Sbornik
nauch. Trudov (Kazansk. in-t epidemiologii i mikrobiologii), vyp. 1, 1949
[na obl: 1948] s. 127-34.

FIRSANOVA, A.N., kandidat biologicheskikh nauk.

Effect of different substances upon the causative agent of ringworm.
Veterinariia 30 no.12:46-47 D '53. (MLRA 6:11)

1. Leningradskiy sel'skokhozyaystvennyy institut.

FIRSANOVA, A. N.

USSR/Microbiology - General Microbiology.

F-1

Abstr Jour : Ref Zhur - Biol., No 5, 1958, 19403

Author : Firsanova, A.N.

Inst :

Title : Study of Lipolytic Enzymes in Dermatophytes and Yeast-Like Fungi.

Orig Pub : V sb.: Eksperim. i klinich. issledovaniya. II. L., Medgiz, 1956, 50-52

Abstract : The most prevalent species of dermatophytes and yeast-like fungi were cultivated on a medium containing KH_2PO_4 , CaCl_2 , NaCl , peptone or ammonium salts, melted and filtered lard, or the fat of human subcutaneous cellular tissue. Dermatophytes decompose fats at different intensities, depending on the sources of C and N, also on the pH of the medium. Maltose inhibits fat decomposition, peptone stimulates it. *Trichophyton gypseum* decomposes fat at a more acid reaction than does *Mycrosporium lanosum*. Yeast-like fungi

Card 1/2

USSR Microbiology - General Microbiology.

F-1

Abs Jour : Ref Zhur - Biol., No 5, 1958, 19403

evolve and decompose fat in the presence of peptone as well as in the presence of ammonium phosphate. Palmitic acid, a product of fat decomposition, is not utilized by fungi, and glycerin on a medium with peptone facilitates the growth of dermatophytes.

Card 2/2

FIRANOVA, A.N.

Rhizosphere microflora in the ontogeny of agricultural plants.
Trudy Inst. mikrobiol. no.11:63-70 '61 (MIRA 16:11)

1. Leningradskiy sel'skokhozyaystvennyy institut.

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